Interviewee Name: Cormac Hondros-McCarthy

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Interviewer(s) Name(s) and Affiliation: Natalie Springuel (Maine Sea Grant) and Giulia Cardoso (College of the Atlantic)

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Interview Description
Cormac Hondros-McCarthy, from Lowell, MA, is part of a team of engineers at LobsterLift LLC developing ropeless lobster traps to reduce the risk of whale entanglement. In this interview, he explains how their idea originated, how the technology works, and his hopes of collaborating with Maine lobstermen for sea trials and fine-tuning of the traps.

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Transcribed By: Giulia Cardoso

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[0:18:14.7]

NS: Natalie Springuel
GC: Giulia Cardoso
CHM: Cormac Hondros-McCarthy

[0:00:00.0]

NS: Let me just fiddle with this for a minute . . . Okay.

CHM: Uhm.

NS: So I'm gonna hold this about here.

CHM: Yeah.

NS: Just so you know. Uhm, can you share, can you just tell us your name and spell it for us?

CHM: Yeah. My name is Cormac Hondros-McCarthy, and that is spelled C-O-R-M-A-C H-O-N-D-R-O-S-M-C-C-A-R-T-H-Y.

NS: Great. And where do you live?

CHM: I live in Lowell, Massachusetts.

NS: Okay. Great. Uh, I feel like we're in good shape. Alright, great! So, tell us a little bit about what brought you to the Maine Fishermen's Forum.

CHM: Yeah, uhm, so, uhm, myself and a group of, uh, a few other engineers, uh, went to Malaysia for a uh, prototype competition. Uhm, the Conservation X Labs Project Borneo. Uhm, and so there was uhm, you, you were sort of faced with solving some of the major problems that are going, going on in the world and we chose uhm bycatch reduction.

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Uhm, mainly because we thought that we could potentially create a device that would, uhm, be able to have a large impact without a tremendous amount of, uhm, government regulation involvement. For instance, one of the other issues was plastic in the ocean. Uhm, and so we developed a, our, uhm, during that competition, uh, we developed a design, a concept, uhm, that was using a ropeless fishing device, specifically for, uhm, lobster traps, and the main focus was, uhm, on the, uhm, right whale issue that's going on, where, uhm, the species is potentially gonna get decimated because of, uhm, uh, the lobster fishing lines. Uhm, not the lobstermen's fault, it's just, uhm, sort of what happened. And, uhm, so.

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During that competition, we actually won. And uhm, so we got some funding and we're continuing the project and uh, hopefully turning it into a business and, uhm, I'm here to uhm,

learn as much as I can about the industry. I come from uh, medical device uhm, engineering background and, uhm, so everything's a bit new for me. And just looking to kinda talk to some people and try and absorb as much as I can, just here to listen sort of thing.

NS: That's great. I imagine that you will be attending the session on whales.

CHM: Yes!

NS: Yeah (laughs).

CHM: Yes, yeah, definitely, the—there's actually a lot of really great, uhm, sessions going on at this Forum.

NS: Yeah.

CHM: So.

NS: Yeah, and so I'm looking at your li—name tag (coughing in background), and your business says "LobsterLift LLC."

CHM: Yep.

NS: What's that?

CHM: Uh, so LobsterLift, uhm, LLC, is, is the, uh, uhm, company name. Uhm, so we have a lobsterlift.com, it's sort of just uh, gives you as, as much information as uh, we have out there.

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Uhm, so where we are right now, is we are uhm, uh, looking for, applying for some grants. Uhm, to, uhm, further fund the project. Uhm, engineering projects have, have been, have been involved with uhm, projects that were, uhm, sort of on, on the tail end as far as being mass-produced, as well as, uhm, from concept phase into the por—into the uhm, part where they actually uhm, are ready to get handed off to the mass pro—production team. Uhm, and, uhm, where we are right now is right at that beginning phase and, and so this is really the part where, uhm, we wanna try and understand the problem, understand the people that be potentially using it as much as possible. Uhm, and, uh try and come up with something that everybody likes. Our, our main, my main focus and the rest of the team's focus is, uhm, creating uhm, a solution that's cost-effective.

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Uhm, as well as, as simple to use as possible, uhm, because they definitely have a very, uh, lobstermen, fishermen, in general, have a pretty difficult job, and uhm, I know that if my job was really difficult, then, really laborious and, and have all these environmental factors that are going on, harsh, harsh conditions, uh, I'd be pretty darn frustrated if I was using this thing and trying to fiddle with it and, and to try and get it working. Uhm, so uh, we're looking to hopefully be the next generation of uh, fishing gear. Uhm, and hopefully make it easier for, for fishermen.

NS: And can you describe the, uh, how the device works?

CHM: Yep.

NS: Sort of the basic concept.

CHM: Yes, so, uhm, the basic concept, uh, involves using a en—acoustic signal, uhm, we looked into, uhm, trying to, uhm.

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Use different types of signal, but acoustic seems to be the, the frontrunner. Uhm, so the, uh, fishing boat comes up, uhm, to, to the lobster traps and uh, they send an acoustic signal to, uhm, a device that's just connected to their existing lobster trap trawl—lobster trap trawl.

NS: But does not have a line that goes to the surface?

CHM: Correct, correct. And, uhm, it, the device creates buoyancy that then lifts up the, uhm, first few traps, uhm, that allow uh, the lobsterman to then uhm, pull in, pull in all of the rest of the traps. And so there's, uhm, there's a lot of ideas, uhm, right now, and, and we're uh, we're developing the first initial prototypes. Uhm, and those will progress as, uhm, as the, the company progresses and as more funding comes in. Uhm, and, uhm.

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We're still very much at the point where we can adjust, uhm, pretty easily, uhm, so, that's kinda what, what I'm, what I'm here for is to try and get a, get the best understanding as I can, uhm, and talk to some people.

NS: Great. Uhm, so, just to make sure I understand: so, uh, ropeless trap.

CHM: Yep.

NS: So there's, the traps are still on a trawl, and there still, there might still be five traps on a trawl.

CHM: Yep.

NS: Attached to each other.

CHM: Yep.

NS: But there's no rope coming up to the surface, and no buoy at the surface.

CHM: Correct. Yeah. No, no rope in the water column.

NS: Ok. Just.

CHM: Uhm.

NS: On the bottom [inaudible].

CHM: Yeah. So, yeah, so we're, we're tryna make this as, you know, you just, clip it on to the front. Your, your, your leading trap. Uh, leading and potential, uhm, last trap as well.

NS: And, uh, then how do they keep track of where their traps are?

CHM: Yeah, so, that's uhm, that's gonna be something where we kinda have to dip into the, uhm, working with uh, regulations.

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Uh, because, uh, this is a massively hot topic, uhm, uh, the question is always asked, and uhm, that's going to have to come along with uhm, using a uhm, a sort of GPS coordinate system, uhm, to then, uhm, locate where each of your traps are. Which, which, uhm, where sort of everybody else's is generally, so that you can't see, so that you can't uh, so you're not gonna be laying on top of someone else's gear, uh, for instance. And, uhm, you, you kinda get into a tricky situation where uhm, fishermen don't want everybody to know where their stuff is, but so, we're actually focusing primarily on inshore fishing, so everybody kinda already knows where everybody's gear is, just based off of the, uhm, the buoys that they can see. But, uh, uhm, we believe that in order to, uh, get the uhm device out in the market, uhm, inshore is, is our uhm most effective way.

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Especially because it, we can uh, make it as cost-effective as possible. And we're, and we're really focusing on, uhm, using off—as many off-the-shelf components as we can, and, and, uh reducing part numbers as much as possible.

NS: So you're an engineering firm, right? Working to design the device.

CHM: Uhm.

NS: So.

CHM: Uh, we're, we're a group of individual engineers, uhm, and so, uh, so I guess you could, we're, we're an LLC at the moment.

NS: Mmhm.

CHM: So . . . Firm might, I think of like a big.

NS: Uh uh.

CHM: A big, uh, honking company, uh, but uh, right now we're, we're at a team of about six.

NS: Great. Great. Where are you guys based?

CHM: Uhm, so we're scattered a little bit. But, uh, mainly based in Lowell, Massachusetts and, uhm, Lowell, Massachusetts, uh, South Carolina and as well as, uh, in Bar Harbor, Maine

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And uh, South Carolina is where, uh, our software engineer is. Is uh, living.

NS: And is Bar Harbor, are you affiliated with Steve Katona? In Bar Harbor?

CHM: Uhm, I do not know Steve. Uhm, maybe I should.

NS: M-m-maybe you should, we'll talk about him (laughter in background), I'll tell you about him after your interview (laughs), 'cause Steve's been doing some work in this area too.

CHM: Yeah, cool!

NS: Uhm, yeah. So, uhm, so, what's your connection to the ocean?

CHM: Uhm, I mean, I mean, I've uh, grown up, grown up near the ocean and it's, it's, uh, my, my dad has a small sailboat up in Bar Harbor, uhm, and so, it's, uhm, you know, it's an amazing to be near. Uhm, and, uhm, the, the, the main, the main thing, uhm, that, that brought us onto this, uh, issue is just, it just seems, you know, crazy to uhm, just not try and do something, uhm, to potentially save a species.

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And, uhm, you know, it, it, it, it stinks on both sides, you know, the species gets decimated and/or lobstermen have to uhm, you know, reduce their fishing season in certain areas, or uhm, and you know, nobody, nobody likes that. Uhm, so, uhm, yeah. I don't know if that fully answers your question (laughs).

NS: Mmhm. And has uhm, has this approach to addressing the entanglement issue been uh, sort of explored anywhere else?

CHM: Uhm, as far as some other, uhm, companies that are looking to do it?

NS: Yeah, similar devices and, you know.

CHM: Yeah.

NS: In Canada, or elsewhere.

CHM: Uh, yes, there are, there are uhm, a couple other, uhm (coughs), a couple other teams working on it, uhm, for instance Desert Star, I don't know if you've heard of them, they've kind of been at it for a while. Uhm.

[0:11:00.2]

They use a bit different technique than we're, than we're trying. Uhm, I, I believe, don't quote me, I know they, they've been, they've, they've gone through a bunch of grant cycles as well as, uhm, uhm, have been at it for uhm, a while. Uhm, and have developed, uhm, developed something. Uhm, and, uhm, I mean, I, we believe that there's gonna be a bunch of different uhm, options out there. You know, some, some devices may work better for inshore, some may work better for offshore. Uhm, and you know, I imagine price differences will be, will be a, uh, you know, a big factor there. We're really, uhm trying to hit the market as low as possible, uhm, and, uhm, it seems like that's uhm, a big hesitation with, uhm, fishermen. Is that's like, "That's way too expensive." Uhm, and like, understandably so. It's, uh, you know, the.

[0:12:00.8]

From, from what I know, it's, you know, the f—the fishing, being a lobsterman is not a lu—a lucrative uh, uhm, industry where you're making tons and tons of money now, so if, if there's something that comes along that's, that's too expensive, it's like, "I just can't do it." Uh, so.

NS: And you, uh, you mentioned there might be different approaches for deeper water, offshore.

CHM: Mmhm.

NS: Inshore, I'm also curious if there, if devices that are used on lobster traps might also be used on the crab traps.

CHM: Yep.

NS: That are used up in the Gulf of St Lawrence, where I know that many of the entanglements have been more focused in the last couple of years.

CHM: Yes.

NS: In the last couple years.

CHM: Yes, yeah. Uhm, yeah so they, it, it, it, it would be a easily interchangeable, uhm, between the two. Uhm, uh, for instance Desert Star system uses uhm, a uhm, a rope that gets packed into a bag and uhm, uhm, send a signal to it and it, it shoots up to the surface.

NS: Mmhm.

[0:13:01.8]

CHM: Uhm, and so. Uhm, we're trying to remove the, the line altogether, uhm, mainly just for, again, uhm, uhm, part reduction and just ease of use, and try to make it as fast and as easy as possible. Uhm, and something that's, you're not gonna be able, not gonna have to fiddle with too much.

NS: So the one that you're working on, it would inflate a buoy that would literally pull the trap up.

CHM: Correct.

NS: And the line up.

CHM: Yep.

NS: Wow.

CHM: Uhm, well the, uh, yeah, the, the line, so it'd be a very short line that's, that's attra—attached to the, uh, uhm, the buoy itself uhm but, between the lobster traps there is uhm, there's a, a decent uhm, decent length of line, uhm, that we plan on using as uhm, sort of the length of uh, the, the arm's length of uh, of uh, line to, to bring the first one or two traps, mmh, would, the, the first one or two traps would actually be lifted in the water column.

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Uh, when you, when you would trigger the device. Uhm, and the rest of it would be sort of lying on the ground. So we wouldn't have to actually lift up all of the lobster traps off of the seafloor. So once, once they would, once they would come up to the surface, they would, uhm, pull that in and then, uh, bring it up onto the boat, similar to how they do it today with, with lines.

NS: Are you anticipating or maybe already have done sea trials with lobstermen? Is that part of the plan?

CHM: Yeah that's the plan.

NS: Yeah.

CHM: Yeah. And so, uh, yeah, coming up here, you know, potentially meet some lobstermen and uh, uhm do some of that.

NS: Yeah, yeah. Uhm, so it sounds like you've probably heard some of the concerns from the lobstermen about [inaudible].

CHM: Yeah. Valid concerns, yeah.

NS: Yeah.

CHM: Yeah.

NS: So what would you say to, wha—what's your, what's your message to the lobster community?

CHM: Uhm, I mean I, I would just say, you know, get, get involved with, with being part of the solution.

[0:15:02.5]

Uhm, you know, uhm I don't think any of the people that are uh, trying to work on, on uhm, on coming up with a device that works uhm, for both sides, uhm, is, you know, purposefully just trying to make your lives harder. Uhm, but uh, you know, help us help you, sort of thing. Uhm, and I would, you know, I would suggest, you know, lobstermen to potentially, uhm, try coming up with their own stuff. Uhm, you know. They, uhm, from, from what I've heard, they're pretty ind—ingenious individuals and uh, uhm, it's just kinda like, something has to happen, uhm, and uh, the way that things are going right now, it looks like uhm, you know, ideally regulations wouldn't be the, the answer, and like telling lobstermen to stop fishing in these areas, ideally uh, and, and increasing that quantity.

[0:16:00.9]

But, uh, uhm, yeah, hopefully we can, hopefully there can be a solution that, that works, works out for everyone.

NS: So, a solution like this could be, uhm, independent or voluntary, as opposed to being regulated?

CHM: Correct. Yeah. Yeah, so, uhm, you know as time goes, goes on, uhm, it gets closer to the point of, I, I imagine that it's, it's getting closer to the point of, you know, needing to be regulated. Uhm, but, uh, you know, I think there's, there's, there's a bit of time left and, uhm, you know, hopefully it can be, there's a device that's easier, you know, potentially more cost-effective, uhm, you, it would allow them to fish during the seasons that uhm, uhm, the right whales are migrating. Uhm, and potentially increase their, their revenue at the end of the year.

NS: Mmhm. Great. Do you have any questions?

GC: A lot. So I'm gonna.

[0:17:00.5]

CHM: Yeah?

NS: Great.

GC: Ask them later, though, because I think that.

NS: Are we . . .

GC: Sorry.

NS: Yeah we are kinda winding down.

CHM: Oh, no worries.

NS: Do you have any sort of parting thoughts?

CHM: Uhm.

NS: Hope for the future?

CHM: Yeah, I mean, I just, I just hope someone comes up with something. And you know, if it's us, great, uhm.

NS: Right.

CHM: It's uh, but uh, one thing that we are looking to do is, uhm, uhm, as we, as we develop the software for the acoustic signalling, uhm, we're actually planning on making that open source. Uhm, so that other people that are trying to work on uhm, the same, the same problem will hopefully have an easier time, 'cause the software component is, is a pretty large uhm, uhm, expense for uhm, research and development. Uhm, and it's, it's a very, uhm, important piece of the puzzle. Uhm, and there's, there's a lot of, there's a lot of pieces to the puzzle, it seems very simple, but, I thought it was very simple at the beginning, but you know, you keep getting into it and there's, there's all these things that it needs to do also.

[0:18:03.8]

Uhm, you need—and you need to have answer for. If you don't have the answers, then, it kinda doesn't work. So . . .

NS: Thank you.

CHM: Thank you!

NS: Yeah, thanks for sharing your story and your project.

CHM: Yeah.

[0:18:14.7]